Safety instructions

VEGAWELL WL51/52. TX*******C/D*

VEGAWELL WELL72. TX******C/D*

BVS 08 ATEX E 032 X

I M1, M2 Ex ia I

CE 0044

Document ID: 35160

VEGA

Contents

1 Area of applicability 4
2 General information 4
3 Technical data 4
4 Application conditions 6
5 Impact and friction sparks 6
6 Installation/mounting 7
7 Material resistance 7
8 Grounding 7
9 WL51/52.TX******D*, WELL72.TX*****D* as category M1 instrument 7

Please note:

These safety instructions are part of the operating instructions:

- 32465 - VEGAWELL 51 - 4 … 20 mA
- 32468 - VEGAWELL 51 - 4 … 20 mA/HART - PT 100 - four-wire
- 27501 - VEGAWELL 72 - 4 … 20 mA
- 27630 - VEGAWELL 72 - 4 … 20 mA/HART
- 35161 - EC type approval certificate BVS 08 ATEX E 032 X

35160-EN-131108

DE	Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen, verfügbar in den Sprachen deutsch, englisch, französisch und spanisch.
EN	Safety instructions for the use in hazardous areas are available in German, English, French and Spanish language.
FR	Consignes de sécurité pour l'utilisation en atmosphère explosible, disponibles dans les langues allemande, anglaise, française et espagnole.
ES	Instrucciones de seguridad para el empleo en áreas con riesgo de explosión, disponible en los siguientes idiomas alemán, ingles, francés y español.
CZ	Pokud nastanou potíže při čtení bezpečnostních upozornění v otištěných jazycích, poskytneme. Vám na základě žádosti k dispozici kopii v jazyce Vaší země.
DA	Hvis De har svært ved at forstå sikkerhedsforskrifterne på de trykte sprog, kan. De få en kopi på Deres sprog, hvis De ønsker det.
EL	Εάν δυσκολεύεστε να διαβάσετε τις υποδείξεις ασφαλείας στις γλώσσες που ήδη έχουν τυπωθεί, τότε σε περίπτωση ζήτησης μπορούμε να θέσουμε στη διάθεσή σας ένα αντίγραφο αυτών στη γλώσσα της χώρας σας.
ET	Kui teil on raskusi trükitud keeltes ohutusnõuete lugemisega, siis saadame me teie järelepärimise peale nende koopia teie riigi keeles.
FI	Laitteen mukana on erikielisiä turvallisuusohjeita. Voit tilata meiltä äidinkieliset turvallisuusohjeet, jos et selviä mukana olevilla kielillä.
HU	Ha a biztonági előírásokat a kinyomtatott nyelveken nem tudja megfelelően elolvasni, akkor lépjen velünk kapcsolatba: azonnal a rendelkezésére bocsátunk egy példányt az Ön országában használt nyelven.
IT	Se le Normative di sicurezza sono stampate in una lingua di difficile comprensione, potete richiederne una copia nella lingua del vostro paese.
LT	Jei Jums sunku suprasti saugos nuorodų tekstą pateiktomis kalbomis, kreipkitės į mus ir mes Jums duosime kopiją Jūsų šalies kalba.
LV	Ja Jums ir problēmas drošības noteikumus lasīt nodrukātajās valodās, tad mēs Jums sniegsim pēc pieprasījuma kopiju Jūsu valsts valodā.
MT	F'kaz li jkollok xi diffikulta` biex tifhem listruzzjonijiet ta' sigurta`kif ipprovduti, infurmana u ahna nibghatulek kopja billingwa tieghek.
NL	Als u moeilijkheden mocht hebben met het lezen van de veiligheidsinstructies in de afgedrukte talen, sturen wij u op aanvraag graag een kopie toe in uw eigen taal.
PL	W przypadku trudności odczytania przepisów bezpieczeństwa pracy w wydrukowanych językach, chętnie udostępnimy Państwu kopię w języku obowiązującym w danym kraju.
PT	Caso tenha dificuldade de ler as instruções de segurança no idioma, no elas foram impressas, poderá solicitar junto a nós uma cópia em seu idioma.
SK	Pokiaľ nastanú problémy pri čítaní bezpečnostných pokynov vo vydaných jazykoch, poskytneme Vám na základe žiadosti k dispozícii kópiu v jazyku Vašej krajiny.
SL	Kadar se pojavijo težave pri branju varnostnih navodil v izdanih jezikih, vam bomo na osnovi zahtevka dali na razpolago kopijo v jeziku vaše države.
SV	Om du har problem att läsa säkerhetsanvisningarna på de här tryckta språken, ställer vi gärna på begäran en kopia på ditt språk till förfogande.

1 Area of applicability

These safety instructions apply to the suspension pressure transmitter VEGAWELL 51, 52 and VEGAWELL 72 of type series WL51/52.TX*******C/D*, WELL72.TX******C/D* according to the EC type approval certificate BVS 08 ATEX E 032 X (certification number on the type label).

2 General information

The capacitive suspension pressure transmitters VEGAWELL 51, 52 and 72 are used for monitoring and control of levels also in subsurface mines, in firedamp-proof plants as well as their aboveground plants for which danger due to firedamp and/or combustible, dust-generating bulk solids exists.

The WL51/52.TX*******C/D*, WELL72.TX******C/D* are suitable for applications in hazardous atmospheres in which there is danger due to firedamp and/or combustible, dust-generating bulk solids; for applications requiring instruments of category M1 resp. M2.

The WL51/52.TX*******C*, WELL72.TX****C* with integrated electronics module WL50 are exclusively used for hydrostatic pressure detection as 4 … 20 mA measuring signal and are suitable for applications requiring instruments of category M1 resp. M2.

The WL51/52.TX*******D*, WELL72.TX****D* with integrated electronics module WL50H are used for hydrostatic pressure detection as 4 … 20 mA measuring signal with superimposed HART signal and for detection of the process temperature by means of a PT100 four-wire-measurement and are suitable for applications requiring instruments of category M2. For applications as category M1 instruments the temperature measuring circuit should not be connected and operated.

If the WL51/52.TX*******C/D*, WELL72.TX******C/D* are installed and operated in hazardous areas, the general Ex installation regulations EN 60079-14 as well as these safety instructions must be observed.

The operating instructions as well as the installation regulations or standards that apply for explosion protection of electrical systems must always be observed.

The installation of explosion-endangered systems must always be carried out by qualified personnel.

Category M1 instruments
The electronics housing together with the sensor (pressure measuring cell) is installed in hazardous areas requiring instrumens of category M1.

Category M2 instruments
The electronics housing together with the sensor (pressure measuring cell) and, if required, the additional mechanical fastening element, is installed in hazardous areas requiring instruments of category M2.

3 Technical data

Electrical data
The pressure transmitters VEGAWELL 51, 52 and 72 with integrated electronics module WL50 and WL50H have intrinsically safe circuits. These intrinsically safe circuits are directly connected to the fixed mounted connection cable. The pressure transmitter VEGAWELL 51, 52 and 72 with integrated electronics module WL50, the types WL51/52.TX******C* and WELL72.TX*****C* have an intrinsicallly safe 4 … 20 mA signal circuit for hydrostatic pressure detection.

The pressure transmitters VEGAWELL 51, 52 and 72 with integrated electronics module WL50H, types WL51/52.TX******D* and WELL72.TX*****D* have an intrinsically safe 4 … 20 mA signal circuit with superimposed HART signal for hydrostatic pressure detection and an intrinsically safe temperature measuring circuit to detect the process temperature by means of a PT100 four-wire measurement.

35160-EN-131108

If the pressure transmitters WL51/52.TX******D* and WELL72.TX*****D* with integrated electronics module WL50H are used as category M1 instrument, the intrinsically safe signal circuit with superimposed HART signal may only be connected and operated for hydrostatic pressure detection. When they are used as category M1 instruments, the temperature measuring circuit may not be connected and operated.

Version WL51/52.TX*****C*, WELL72.TX******C***

Category M1 and M2 instruments

Power supply and signal circuit (cores: brown [+], blue [-])

In ignition protection intrinsic safety Ex ia I for category M1, Ex ia I resp. Ex ib I for category M2

For connection to a certified, intrinsically safe circuit.

Maximum values:

- U_i = 30 V
- I_i = 131 mA
- P_i = 983 mW
- L_i = 51 µH
- $C_{i\ wire/wire}$ = 2.4 nF
- $C_{i\ wire/screen}$ = 1.5 nF

With regard to the fix-mounted connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account in addition to the above mentioned C_i- and L_i values.

- L_i' = 0.6 µH/m
- $C_{i\ wire/wire}'$ = 133 pF/m
- $C_{i\ wire/screen}'$ = 215 pF/m

Only version WL51/52.TX*****D*, WELL72.TX******D***

Category M1 instruments

Power supply and signal circuit (cores: brown [+], blue [-])

In ignition protection type intrinsic safety Ex ia I

For connection to a certified, intrinsically safe circuit.

Maximum values:

- U_i = 30 V
- I_i = 131 mA
- P_i = 983 mW
- L_i = 51 µH
- $C_{i\ wire/wire}$ = 2.4 nF
- $C_{i\ wire/screen}$ = 1.5 nF

With regard to the fixed mounted connection cable, the following cable inductances L_i' and cable capacities C_i' must also be taken into account:

- L_i' = 0.6 µH/m
- $C_{i\ wire/wire}'$ = 133 pF/m
- $C_{i\ wire/screen}'$ = 215 pF/m

Category M2 instruments

Power supply and signal circuit (cores: brown [+], blue [-])	In ignition protection intrinsic safety Ex ia I resp. Ex ib I For connection to a certified, intrinsically safe circuit. Maximum values: • U_i = 30 V • I_i = 131 mA • P_i = 983 mW • L_i = 51 µH • $C_{i\ wire/wire}$ = 2.4 nF • $C_{i\ wire/screen}$ = 1.5 nF With regard to the fixed mounted connection cable, the following cable inductances L_i' and cable capacities C_i' must also be taken into account: • L_i' = 0.6 µH/m • $C_{i\ wire/wire}'$ = 133 pF/m • $C_{i\ wire/screen}'$ = 215 pF/m
Temperature measuring circuit (wires: white/yellow, red/black)	In ignition protection intrinsic safety Ex ia I resp. Ex ib I For connection to a certified, intrinsically safe circuit. Maximum values: • U_i = 30 V • P_i = 80 mW • L_i and C_i negligibly small With regard to the fix-mounted connection cable, the following cable inductances L_i' and cable capacitances C_i' have to be taken into account: • L_i' = 0.6 µH/m • $C_{i\ wire/wire}'$ = 188 pF/m • $C_{i\ wire/screen}'$ = 555 pF/m

The metallic parts of the WL51/52.TX*******C/D*, WELL72.TX******C/D* are electrically connected with the screening of the fix-mounted connection cable.

The intrinsically safe signal and supply circuit and the temperature measuring circuit are galvanically separated. In addition, the intrinsically safe signal and supply circuit is electrically separated from parts which can be grounded.

The interconnection of the WL51/52.TX*******C/D*, WELL72.TX******C/D* with other instruments may be separately tested and certified due to national mounting regulations.

4 Application conditions

Permissible ambient temperature, category M1 and M2	
On the sensor and electronics housing	-40 … +80 °C

Protection according to EN 60529	
On the sensor and electronics housing	IP 66/IP 68

5 Impact and friction sparks

The WL51/52.TX*******C/D*, WELL72.TX******C/D* have to be mounted such that stroke and friction sparks can be excluded.

6 Installation/mounting

The WL51/52.TX*******C/D*, WELL72.TX******C/D* have to be mounted in such a way that they are adequately protected from touching the vessel wall, taking vessel installations and flow conditions into account. This applies especially to cable lengths over 3 m.

7 Material resistance

The WL51/52.TX*******C/D*, WELL72.TX******C/D* must only be used in media against which the materials of the wetted parts are sufficiently resistant.

Grease and oil were taken into account for the materials used.

8 Grounding

The WL51/52.TX*******C/D*, WELL72.TX******C/D* must be grounded electrostatically (transfer resistance ≤ 1 MΩ), e.g. via the screening of the connection cable. The metallic parts of the pressure transmitters are electrically connected with the screening of the fix-mounted connection cable.

9 WL51/52.TX******D*, WELL72.TX*****D* as category M1 instrument

If the pressure transmitters WL51/52.TX******D* and WELL72.TX*****D* with integrated electronics module WL50H are used as category M1 instrument, the signal circuit with superimposed HART signal may only be connected and operated for hydrostatic pressure detection. When they are used as category M1 instruments, the temperature measuring circuit may not be connected and operated.

If WL51/52.TX******D*, WELL72.TX*****D* with integrated electronics module WL50H are used for applications as category M2 instrument, the intrinsically safe signal circuit with superimposed HART signal and the temperature measuring circuit may only be connected and operated at the same time.

Printing date:

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.
Subject to change without prior notice

© VEGA Grieshaber KG, Schiltach/Germany 2013

35160-EN-131108

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Phone +49 7836 50-0
Fax +49 7836 50-201
E-mail: info.de@vega.com
www.vega.com